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ATARI

Applying The Atari

by Jeff Brenner

This month's column brings the second part of *Recipe Manager* -- just in time to organize your holiday recipes. The second part adds two useful features to the section listed last month. The first is a "FIND" option, which lets you search for a particular recipe or category. The other is the "CALCULATE" option, which automatically halves, doubles, triples, etc. the measures for any recipe. This month we also have several utility programs submitted by readers, and more reader mail.

Clarifications/Corrections

I had the unusual opportunity to see last month's column in print before completing this month's article. I'll take advantage of this by correcting two confusing typographical errors that appeared here last month.

In November's column, a triangle symbol appears on page 180 and on page 184. In both these cases, this triangle should have been the less-than symbol. On both *Mailing List* and *Recipe Manager*, the greater-than symbol (same as INSERT key) moves forward among the entries, and the less-than symbol (same as the CLEAR key) moves backward. How did the triangles get there? I wish I knew.

On page 180, I seem to say that if you try to search for "Computer Shopper" the program cannot find "Computer Shopper." The first "Computer Shopper" should have been in all capital letters: If you try to search for something that is all capitals, the program will not find the same word that contains both capitals and lower case letters.

Also in November issue, I say that a keypad program correction was published in October. However, this program was left out of October's issue. November's keypad program is therefore the correction to the keypad program.

Reader Mail

Q. First I'd like to say thank you for an extremely good section for Atari home computers. I'm writing to ask you a few questions: (1) Is the Atari 400 totally compatible with 800 and 800XL software? (2) Is the Atari 400 compatible with the 810 disk drive? The 1050 disk

drive? (3) Where may I obtain DOS 2.5? (4) Can I piggy-back eight 2K chips on the back of each 2K memory chip in my Atari 400 to expand its memory to 32K? Can the same process be used to expand the memory to 48K or 64K? (6) Could you provide me with a listing for a memory test program? Your answers will be greatly appreciated by my users' group.

Kuniki Lockett
Sweetwater, AL

A. (1) The 400, provided it contains sufficient memory to run the programs, is completely compatible with 800 software. A 16K Atari 400, however, cannot run a 32K program for any machine. Software released specifically for the XL/XE machines cannot be used with the 400 and 800, but almost all Atari (8-bit) software will run on the 400/800 models.

(2) Again, provided the 400 contains at least 16K of memory, it can be used with the 810 or 1050 disk drives.

(3) As mentioned in last

month's column, you can send Atari your DOS 3 diskette and you will be sent DOS 2.5 at no charge (Atari Customer Relations, P.O. Box 61657, Sunnyvale, CA 94088).

(4) Unfortunately, expanding the 400's memory is not as simple as piggybacking RAM chips to the existing ones. You'll probably be better off buying an inexpensive Atari XL or XE than buying hard-to-find memory boards for the Atari 400.

(5) A memory test program is listed under "SIMPLE MEMORY TESTER." This BASIC program contains a machine language program that checks all memory above page 6 (location 1536). Each location is checked by setting all bits to zero (storing a zero in the location) and then setting all bits to one (storing a 255 in the location). At both points, the program verifies that the location contains the zero or the 255. If the memory location does not contain the value that was stored in it, the

program will end and will print the faulty memory address.

Q. I have played around

with the Atari 130XE and DOS 2.5. I tried to use the DOS in

Continued on page 66

SIMPLE MEMORY TESTER

```
VTJ 10 REM SIMPLE MEMORY TESTER
I1J 20 REM COPYRIGHT 1985 JB
ICJ 30 FOR I=1536 TO 1595:READ N:T=T+I+N
TKJ 40 POKE I,N:NEXT I
OQJ 50 IF T=10 THEN 70
WHJ 60 PRINT "ERROR-CHECK DATA LINES 100-170"
ROJ 70 PRINT CHR$(125);"CHECKING MEMORY..."
FSJ 80 POKE 207,0:A=USR(1536)
CKJ 90 IF PEEK(207) THEN 110
PSJ 100 PRINT "MEMORY O.K.":END
QXJ 110 BAD=PEEK(205)*256+PEEK(204)
YTJ 120 POKE BAD,PEEK(206)
OQJ 130 PRINT "BAD BYTE AT LOCATION ";BAD
FQJ 140 END
UXJ 150 DATA 104,169,168,141,1,210,169,7
UFJ 160 DATA 133,205,169,0,133,204,160,0
YQJ 170 DATA 177,204,133,206,169,0,145,204
CFJ 180 DATA 177,204,208,29,169,255,145,204
BWJ 190 DATA 177,204,201,255,208,19,165,206
CXJ 200 DATA 145,204,200,208,227,230,205,165
YCJ 210 DATA 205,141,0,210,197,106,208,216
UGZ 220 DATA 96,230,207,96
```

Program continued on next page

Atari Help

by Jeff Brenner

Q. When using my Atari 1200XL with a monitor, the image is very unclear. There is ghosting to the left of the characters. This double image makes it quite impossible to use comfortably. I have tried several different types of monitors, amber, green, color (an interesting note: with the color monitor, it looked like the convergence was badly off). In all cases, the monitors worked well on other computers (not Atari). Can you shed some light on this?

Robert Davis
Yorba Linda, CA

A. What is unusual about your problem is that you have tried other computers with your monitor and have been able to get a good picture. I assume you are using the proper cable (and of good quality) between the 1200XL's monitor jack and your monitor, that you have tried adjusting all controls on your monitor, and that you are not

using an 80-column board.

Have you tried using an ordinary color or black and white television set? See if you still get the double image.

Is the image unclear when you are using BASIC, or only when you are using a particular program, such as your word processor? If this only happens with a particular program, it is probable that the colors used for the text and the background do not blend smoothly and are causing this ghosting.

Although a hardware problem is least likely, you can see if this is the case by trying another Atari with your monitor. It does not have to be another 1200XL; a 600XL, 800XL or even an XE should give you the same result. If you get a clear picture with another Atari computer, this would indicate that your 1200XL does indeed have some type of hardware problem.

Q. I read your column (Applying The Atari) for the first time this week and would like

to compliment you on its content and style.

I couldn't resist an ad for an Atari word-processing set, comprising 800XL, 1027, 1050 and a monitor. Later, I bought an 850 interface from a member of the local SIG.

My problem centers around using the extraordinary 1027 printer. It seems to have been made to the same philosophy as the Model A Ford. I don't know if it will last as long.

There must be thousands of 1027s around the country. Do they all have such miserable documentation as I received with mine? The problem seems to be that all the textbooks on the Atari were printed before this printer was put on the market.

You would do me a huge service by telling me where I can find all there is to know about operating and looking after the 1027; particularly when connected to Atariwriter software.

How does it work? It spins so fast I haven't yet fathomed it! Where precisely does one

put the oil? Assuming one won't be able to buy spare ink cartridges forever, how does one revive them? Can one print special letters from Atariwriter without using the cumbersome Control-O sequence?

One of these days I want to try to use the 800XL as a robot controller, specifically to input analog voltages relative to its coordinates via the paddle ports, and output instructions through the RS232 interface. Has anything been published on this yet?

I do hope it's not imposing on you to ask all these questions. Even members of my SIG can't help — they are mainly interested in games or chatting on bulletin boards!

A. While books have been written on Atari computers, BASIC and even DOS, I don't know if there's any supplemental documentation available for Atari's printers. Occa-

Continued on page 163

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Memory Minder**Continued from page 72**

longer marketing such a version. J&M didn't tell me why, and I decided not to be too pushy by asking. I did discover by trial that the MSDOS/IBM version will not work on a Sanyo 550 or 555, so we're out of luck on this score, fellow Sanyo users. (Maybe I will ask J&M later on. If I find anything interesting, I'll report it in my Sanyo column here in the *COMPUTER SHOPPER*.)

The TRS-80 version I tested was 3.480 and consisted of a self-booting disk for loading the program, plus a diagnostic disk. I discovered through experimentation that the self-booting disk would not self-boot on a Model 4P — and therefore presumably on a 4 either — since you must load the Model 3 ROM image, which is the MODEL3/III file which comes with your 4 or 4P. If you have a Model 3, you need not be concerned. J&M doesn't seem to mention this in the instructions, so I guess the company presumes that everybody knows by now that any program marked for Model 3 or 4 is going to run on the 4 in Model 3 mode, and therefore the ROM image must be pre-loaded. No big deal, but keep that in mind for all your Model 3 application software which you run on your 4 or 4P.

After you load the program, remove the disk and insert the diagnostic disk. The test pro-

gram is memory-resident and will stay in memory even after testing, so there is nothing to be gained by leaving it in. In any case, it appears that the special diagnostic disk may be necessary at this point. Not wishing to tamper with the grand design of the computer gods, I obeyed and made the required change.

The TRS-80 version's menu screen offers the following tests, most of which should be pretty self-explanatory, or at least you should be able to make a reasonable inference about the meaning. They are: clamping test, speed test, index hole timing, read sensitivity, head alignment, directional seek test, head rotation test, and a "quick test" of some of these, plus a couple of extra options added. Some of these may be a bit redundant, perhaps, in pointing out problems, but are most desirable features to have. Selection of the appropriate number without having to press the Enter Key throws you into the appropriate submenu. Typically, you touch D to change the drive to be tested, then the number. To start the drive being tested spinning, touch S. To stop, touch S again, although hold down the S key a moment longer to be sure the program's scan of the keyboard catches your depressing of that key. After all, the program is also reading results from the drive.

So, how good was it?

**Applying the Atari
Continued from page 66**

are printed more slowly, and quite violently -- the printhead jerks back and forth for each

character. However, Mr. Garvin's utility offers an advantage in that programs can be listed

PRINTER UTILITY - 400/800 VERSION

```
BCJ 18 REM 400/800 VERSION
FEJ 28 REM BY DAVID GARVIN
AGJ 38 PRINT CHR$(125); "DENSITY (1-2) " : INPUT D: IF D<1 OR D>2 THEN 18
RAJ 48 FOR X=1 TO 280: READ A: POKE 1535+X, A: NEXT X: POKE 1741, 74+D: X=USR(1536)
VJ 58 PRINT "PRINT THIS PRINTER IS NOW READY TO USE." : PRINT : PRINT
BJ 68 PRINT "IF SYSTEM RESET IS PRESSED, REACTIVATE"
LVJ 78 PRINT "PROGRAM BY TYPING X=USR(1536)." : END
LHJ 88 DATA 184, 149, 12, 141, 27, 3, 149, 6, 141, 28, 3, 96, 158, 238, 219
TAJ 98 DATA 238, 157, 238, 24, 6, 128, 238, 157, 238, 78, 128, 238, 148, 8, 132
NAJ 108 DATA 283, 281, 155, 288, 3, 76, 192, 6, 281, 32, 144, 4, 281, 91, 144
RTJ 118 DATA 245, 281, 97, 144, 4, 281, 123, 144, 237, 18, 38, 283, 74, 281, 96
JDJ 128 DATA 174, 14, 281, 64, 174, 9, 281, 32, 176, 5, 185, 64, 76, 78, 6
OJ 138 DATA 56, 233, 32, 133, 288, 149, 8, 133, 289, 24, 162, 3, 24, 38, 288
TJ 148 DATA 38, 289, 282, 288, 248, 24, 173, 244, 2, 181, 289, 133, 289, 148, 7
GRJ 158 DATA 162, 1, 177, 288, 157, 195, 6, 149, 8, 153, 288, 6, 136, 232, 224
IWJ 168 DATA 9, 288, 248, 148, 8, 162, 8, 185, 288, 6, 42, 195, 6, 42, 153
SLJ 178 DATA 288, 4, 282, 288, 243, 145, 283, 248, 8, 185, 288, 6, 73, 255, 153
OKJ 188 DATA 288, 4, 185, 288, 6, 281, 155, 288, 5, 149, 151, 153, 288, 6, 288
RRJ 198 DATA 192, 8, 288, 212, 148, 8, 132, 283, 185, 284, 6, 132, 283, 32, 167
VZJ 208 DATA 238, 238, 283, 164, 283, 192, 12, 288, 248, 148, 1, 96, 76, 147, 238
XFZ 218 DATA 8, 8, 8, 8, 8, 8, 8, 128, 27, 75, 8, 8
```

XL/XE VERSION

```
BJ 18 REM XL/XE VERSION
FEJ 28 REM BY DAVID GARVIN
AGJ 38 PRINT CHR$(125); "DENSITY (1-2) " : INPUT D: IF D<1 OR D>2 THEN 18
RAJ 48 FOR X=1 TO 212: READ A: POKE 1535+X, A: NEXT X: POKE 1745, 74+D: X=USR(1536)
VJ 58 PRINT "PRINT THIS PRINTER IS NOW READY TO USE." : PRINT : PRINT
BJ 68 PRINT "IF SYSTEM RESET IS PRESSED, REACTIVATE"
LVJ 78 PRINT "PROGRAM BY TYPING X=USR(1536)." : END
MHJ 88 DATA 184, 149, 12, 141, 27, 3, 149, 6, 141, 28, 3, 96, 193, 254, 6
STJ 98 DATA 235, 192, 254, 24, 6, 162, 254, 192, 254, 74, 153, 254, 148, 8, 132
NRJ 108 DATA 283, 281, 155, 288, 3, 76, 196, 6, 281, 32, 144, 4, 281, 91, 144
RTJ 118 DATA 245, 281, 97, 144, 4, 281, 123, 144, 237, 18, 38, 283, 74, 281, 96
JDJ 128 DATA 174, 14, 281, 64, 174, 9, 281, 32, 176, 5, 185, 64, 76, 78, 6
PTJ 138 DATA 56, 233, 32, 133, 288, 134, 284, 149, 8, 133, 289, 24, 162, 3, 24
WJ 148 DATA 38, 289, 38, 289, 282, 288, 248, 24, 173, 244, 2, 181, 289, 133, 289
HJ 158 DATA 148, 7, 162, 1, 177, 288, 157, 199, 6, 149, 8, 153, 212, 6, 136
KRJ 168 DATA 232, 224, 9, 288, 248, 148, 8, 162, 8, 185, 212, 6, 42, 199, 6
PZJ 178 DATA 42, 153, 212, 6, 282, 288, 243, 145, 283, 248, 8, 185, 212, 6, 73
UJ 188 DATA 255, 153, 212, 6, 185, 212, 6, 281, 155, 288, 5, 149, 151, 153, 212
PWJ 198 DATA 4, 288, 192, 8, 288, 212, 148, 8, 132, 283, 164, 284, 185, 288, 6
WJ 208 DATA 132, 283, 32, 283, 254, 238, 283, 164, 283, 172, 12, 288, 238, 148, 1
NAJ 218 DATA 96, 76, 283, 254, 8, 8, 8, 8, 8, 8, 8, 8, 27, 75
ABZ 228 DATA 8, 8
```

I first tested my Model 3, then my 4P. The 4P checked out pretty well, but the 3 did indeed have problems. Drive 0 proved to be out of alignment based on several of the tests (alignment, clamping), and the speed drive 1 (297 rpm) was just a bit lower than the 300 + or - 2 rpms I've generally heard recommended. Having told a McGraw-Hill rep that her company's program was giving me some problems, I now felt guilty to have cast some aspersions on it, but at least I now knew that my machine was at least partially at fault. Memory Minder spared me the further embarrassment that might have resulted if I had blamed the product for something not particularly wrong with it, or at least not as much as I had thought.

In summary, this is a terrific product, easy to use, and worth having. I admit that the price of disk diagnostic programs may seem a bit high to many people, but for the features, Memory Minder's seemed reasonable. The TRS-80 ordinary version for single-sided, 40-track drives, is \$79. For double-sided drives, still 40-track, it's \$89. The IBM-PC and PC Jr versions cost \$99. Shipping is \$4 for all versions. I spoke to Jamie Treat, the marketing coordinator, on the phone about pricing. I understood that other configurations were available for support. For instance, a TRS-80 with 80-track drives had to have a different version. It seemed to be a bit more hefty a price tag (\$129). I also understood that the 40-track version could not be used on an 80-track machine and vice-versa. This is not a criticism; merely a warning to order the correct version!

I saw no mention of backups. Granted, there would seem to be little recourse, but any reviewer worth his salt has to consider the question. I did not try to make a backup. Instead, I asked Jamie, who reported that the program was copy-protected but could be copied by a zap utility, such as Super Utility Plus, I inferred. (There's a SU+ for MSDOS as well, so don't stop reading here you IBMers!) As for the disk you do the tests on, well, ... uh, ..., no, that had to be done by J&M. I asked how much. My jaw dropped when Jamie mentioned figures which sounded like \$26 and thirty-something dollars. Maybe this was due to fear or piracy or something, but it struck me as steep.

Other than the price of backups, consider the price of service, labor and repairs, and

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Applying The Atari Continued from page 160

directly from the computer to the printer without having to first LIST the programs to disk.

Richard Fleagle, of Fairbanks, Alaska, sends a renumbering utility (listed under the "RENUMBERING UTILITY" heading) and writes: "I am a subscriber to the *Computer Shopper* and I read the Atari section in each issue. I wonder what has happened to all of the old utility programs that were so plentiful so many years ago. I guess it was in January of 1981. I am enclosing a utility I have used for years. As with all of the renumbering utilities I have used, this one is no exception as it will not renumber lines referred to by variables.

"To load the utility, have the program you wish to renumber in computer memory and type EN."D:RENUMBER.LST." To run it, type G.32100.

"The program asks you for the file name you wish to have for the finished product. It may be a good idea to use the original program name with

the extender of ".LST" since the renumbered program is saved in a LIST format. Next question is the starting line number and what line number increment you want. Maybe you want to start at line 10 and have the next line 20, etc. Just answer 10,10 at that prompt.

"The program keeps you posted as to what is happening as it goes along and plays a bit of music. If there are lines that refer to variable names or lines that are not in the program being renumbered, the line number and a message [SR-Symbolic reference or NF-not found] will appear on the screen. Write these line numbers down since you will want to go back to them and enter the correct line numbers manually. When renumbering is complete, the screen will show how many lines were renumbered. Pressing RETURN will LIST the program to disk. Then type NEW and ENTER your new renumbered program. If there were error - reference lines, check these out and make corrections. When all is done, SAVE the file.

Aaron Todd of Los Angeles, CA, submits "EDITING

UTILITY." This program should be LISTED to diskette. Then it can be ENTERED and merged with your BASIC programs. Type GOTO 31000 to run it. You'll be asked to "INCREMENT BY HOW MANY LINES?" If your program is generally numbered by ten (i.e. 10, 20, 30, etc.) enter 10 for this prompt. Then, pressing START will list the next line(s) of your BASIC program. Pressing SELECT will list the previous line(s). To edit a line on the screen, press BREAK and use the control keys to re-enter. Then type CONT and press RETURN. When you are finished using this utility, press OPTION and it will erase itself from memory, leaving you with your BASIC program.

Thanks to all readers who have submitted programs.

Genealogy Programs And More Genealogy Programs.

Last month I mentioned two genealogy programs that readers had written in about in response to Darwin K. Garrison's request for a genealogical program for the Atari. This month *Computer Shopper* readers have discovered even more. Antic Publishing, which claims that its genealogy program, *The Family Tree*, is "the only genealogy program for the Atari" had better take note:

- 1) Ancestors for the 800/XL/XE. \$39.95 plus a formatted DOS 2 diskette from Velma Prochter (Box 2434, Harbor, OR 97415).
- 2) Branches and Twigs for the 400/600/800/XL/XE, (companion programs). \$55.00 from Sysco Software (3595 Cloverleaf Drive, Boulder, CO 80302).
- 3) Family History. \$59.95 plus \$2.00 shipping from Direct Lines Software (4816 Forrestal

St., Fair Oaks, CA 95628).
4) Genealogical Database Manager and Family Tree Organizer for the 800/XL/XE, (soon for 520ST). \$29.95 from Caledonia Enterprises (490A Abelia Street, Sumter, SC 29152-1403).

The following were listed last month:

- 5) The Family Tree. \$19.95 plus \$3.00 shipping from Antic Publishing (524 Second St., San Francisco, CA 94107)
- 6) Genealogical Program from A-BUG-BYTE users group. \$5.00 from A-BUG-BYTE (10790 W. National Road, Brookville, OH 45309).

Now we have enough genealogy programs to last us for, well, generations! Several readers found these programs described in genealogy publications; others contacted organizations such as the National Genealogical Society. My sincerest thanks to all readers and genealogists who wrote, including Jim Cox, (APO New York), Al Crespo (Bakersfield, California), Y. Feiner (Orange, New Jersey), Louis J. Goldman (Middleburg Heights, Ohio), James M. Herzberg (Toledo, Ohio), John P. Kirkpatrick (Sumter, South Carolina), Leo H. Kordsmeier, Jr. (Little Rock, Arkansas), Dixie Sandy (Lafayette, Colorado), and Dan Sweda (Brookville, Ohio).

In October, a letter from Ken Rogers (Melrose, Massachusetts) was printed in which he asked where he could find the "Power Stick," a joystick that was made by a company called Amiga. My thanks to Patrick Campbell (Birmingham, Alabama) for writing to say that he recently purchased the Amiga "Power Stick" at a Birmingham Toys 'R Us store. I have seen the "Power Stick" in Toys 'R Us

stores in the New York area, and there is a good chance that other Toys 'R Us stores around the country are selling this joystick.

Recipe Manager, Part II

Use Program Perfect to type in the Part II of Recipe Manager listed under the "Recipe Manager Additions" heading. Then LIST these additions to diskette (i.e. LIST "D:TEMP"), load in the original Recipe Manager, and ENTER the additions (ENTER "D:TEMP") to merge them with the original program. You can then SAVE the complete program under one name (i.e. SAVE "D:RECIPE.BAS").

The additions add the routines necessary for the FIND and the CALCULATE options. A description of each of these options follows:

FIND Recipes/Categories

This option lets you find a particular recipe that you've stored in Recipe Manager. It also enables you to look through recipes in a specific category only, such as "main dishes."

When F is pressed for the "SELECT:" prompt, you are asked, "FIND CATEGORY OR RECIPE?" If you have the name of a particular recipe in mind, press R, and you'll be asked to enter the name of the recipe. When you type the name and press RETURN, the program will look through each recipe stored on the diskette until a match is found. If you are not sure of the entire name of the recipe, you can enter only a part of the name and the program will find all receipt names that match that part. For example, if you only type "CHICKEN," Recipe Manager would find any entrees beginning with "CHICKEN," such as "CHICKEN A LA KING" and "CHICKEN CACCIATORE."

When a match is found, the recipe is displayed on the screen and you are asked if you want to "CONTINUE SEARCHING OR STOP." Press C to continue finding recipe names that match the one you entered, or press S to return to the menu screen. From the menu screen, you can then print the recipe, or use the CALCULATE feature (discussed later.)

If you choose to find a category, rather than a particular recipe, type in the name of the category you want to look through. Again, you can only enter a part of the category if you are unsure of

EDITING UTILITY

```

SVJ 31000 REM SPECIAL EDIT PROGRAM/A. TODD
DQJ 31010 PRINT "TO ADVANCE, PRESS START"
TFJ 31020 PRINT "TO BACK UP, PRESS SELECT."
WQJ 31030 PRINT "PRESS BREAK FOR EDIT MODE."
HJ 31040 PRINT "TYPE 'CONT' AND PRESS RETURN WHEN YOU HAVE FINISHED EDITING."
YUJ 31050 PRINT "WHEN THROUGH, PRESS OPTION TO ERASE"
PJ 31060 PRINT "THIS PROGRAM."
HJ 31070 PRINT "INCREMENT BY HOW MANY LINES?";:INPUT LIN
CJ 31080 FOR LST=9 TO 31740 STEP LIN
UJ 31090 IF LST>1 THEN LIST LST+1,LST+LIN
IJ 31100 IF PEEK(53279)=4 THEN GOTO 31140
RJ 31110 IF PEEK(53279)=5 THEN LST=LST-LIN:GOTO 31090
IJ 31120 IF PEEK(53279)=3 THEN GOTO 31150
IJ 31130 GOTO 31100
HJ 31140 NEXT LST:GOTO 31090
HJ 31150 PRINT CHR$(125);:POSITION 2,4
HJ 31160 FOR Y=31000 TO 31170 STEP 10:PRINT Y:NEXT Y:PRINT "GR.0:POKE 842,12"
FJ 31170 POSITION 2,0:POKE 842,13:END

```

RECIPE MANAGER ADDITIONS

```

UTJ 1730 PRINT CHR$(125);:GOSUB 1100
FLJ 1740 GOTO 2150
GJ 1750 GOSUB 1100:TRAP 1330
UJ 1760 POSITION 2,23:PRINT DE$;
WJ 1770 POSITI 2,22:PRINT DE$;"CURRENT NUMBER OF SERVINGS";
GJ 1780 INPUT C$;
UJ 1790 POSITION 2,22:PRINT DE$;"NUMBER OF SERVINGS DESIRED";
GJ 1800 INPUT SD;
CJ 1810 F=SD/CN;
CJ 1820 FOR Y=4 TO 21:POSITION 2,Y:INPUT B4;A6;
PAE 1825 IF LEN(A6)=9 THEN NEXT Y:GOTO 1300
GJ 1830 IF A6(1,1)<>" THEN NEXT Y:GOTO 2000
GJ 1840 A6=A6(2,LEN(A6));
GJ 1850 FOR X=2 TO LEN(A6):IF A6(X,X)<>" THEN NEXT X:GOTO 1800
IJ 1860 A6=A6(1,X-1);
FJ 1870 GOTO 1800
GJ 1880 POSITION 2,Y:PRINT "S";:POSITION 2,23:GOTO 2130
IJ 1890 J=LEN(A6)+1:DN=1:NM=0
GJ 1900 FOR I=LEN(A6) TO 1 STEP -1:IF A6(I,1)<>" THEN NEXT I:1=2:GOTO 1940
HJ 1910 DN=VAL(A6(I+1,LEN(A6)));
JME 1920 FOR J=1 TO 1 STEP -1;
DIE 1925 IF A6(J,J)=9 AND A6(J,J)=9 THEN NEXT J:NM=VAL(A6);
HJ 1930 NM=VAL(A6(J+1,1-1));
VJ 1940 M=0:IF J>1 THEN M=VAL(A6(1,J-1))+NM/DN;
GJ 1950 IF J<1 THEN M=NM/DN;
YJ 1960 M=M*F:LN=LEN(A6);
GJ 1970 IF INT(M)=0 THEN A6="":FR=M:M=0:GOTO 1990
UJ 1980 A6=STR$(INT(M));:FR=M-INT(M):M=M-FR;
UJ 1990 R=FR:DN=1:NM=0;
YJ 2000 FOR D=2 TO 5:IF D=5 THEN D=8;
HJ 2010 FOR N=1 TO D;
AVJ 2020 IF ABS(FR-(N/D))<R THEN R=ABS(FR-(N/D)):DN=D:NM=N;
TJ 2030 NEXT N:NEXT D;
GJ 2040 IF DN=NM THEN NM=0:M=M+1;
HJ 2050 IF M THEN A6=STR$(M):IF NM=0 THEN 2090;
GJ 2060 IF M THEN A6=LEN(A6)+1:NM="";
HJ 2070 A6=LEN(A6)+1:STR$(NM):A6=LEN(A6)+1:NM="";
HJ 2080 A6=LEN(A6)+1:STR$(DN);
HJ 2090 POSITION 3,Y:J=LEN(A6)-LN:BOUND 1,25,10,0;
YJ 2100 IF J>0 THEN FOR I=1 TO J:PRINT CHR$(255);:NEXT I;
CJ 2110 IF J<0 THEN FOR I=J+2 TO 1:PRINT CHR$(254);:NEXT I;
HJ 2120 PRINT A6;:BOUND 1,0,0,0;
GJ 2130 NEXT Y;
FJ 2140 GOTO 1330;
GJ 2150 POKE 752,0:POSITION 2,22;
YJ 2160 PRINT DE$;"FIND";:CHR$(195);:"CATEGORY OR";:CHR$(210);:"RECIPE?";
PJ 2170 GET B1;A1:IF A1>82 AND A1>67 THEN 1330;
GJ 2180 PRINT CHR$(A1);
GJ 2190 IF A1=67 THEN POSITION 2,22:PRINT DE$;"FIND WHAT CATEGORY";
GJ 2200 IF A1=82 THEN POSITION 2,22:PRINT DE$;"FIND WHAT RECIPE NAME";

```

RENUMBERING UTILITY

```

YJ 32350 REM RENUMBER PROGRAM/DICK FLEAGLE
GJ 32360 DIM B$(12):PRINT CHR$(125);:CHR$(29);:TB=256:I=1:Z=32350
EJ 32370 NM=0:X=PEEK(130):PEEK(139)+8TB
HJ 32380 Y=PEEK(134)+PEEK(135)+8TB+8*(PEEK(X+5)-120)+2
PJ 32390 PRINT "ENTER FILENAME FOR PROGRAM:";:PRINT "(NAME AND EXTENSION ONLY)";
IJ 32400 INPUT B$:PRINT "START 0, BY (INCREMENT)";:INPUT FR,BY:PRINT CHR$(125);
OJ 32410 B=PEEK(134)+PEEK(137)+8TB:X=B+M+FR
GJ 32420 LN=PEEK(X)+PEEK(X+1)+8TB:BOUND 0,LN,10,0:IF LN=2 THEN 32460
FJ 32430 PL=PEEK(X+2):C=X+3
GJ 32440 LL=PEEK(C):C=C+1:GOSUB 32500:IF LL<PL THEN C=X+LL:GOTO 32440
VJ 32450 X=X+PL:M=M+BY:GOTO 32420
GJ 32460 M=FR:X=B:BOUND 1,0,0,0;
HJ 32470 LN=PEEK(X)+PEEK(X+1)+8TB:BOUND 0,32768-LN,10,0:IF LN=2 THEN 32740
GJ 32480 M=INT(M/TB):M=M-M*TB:POKE X,M:POKE X+1,M;
HJ 32490 M=M+BY:X=X+PEEK(X+2):GOTO 32470
LJ 32500 TK=PEEK(C);
GJ 32510 IF (TK>9 AND TK<14) OR TK=35 THEN C=C+1:GOSUB 32640:RETURN;
GJ 32520 IF TK>36 THEN 32500;
GJ 32530 C=C+1:D=PEEK(C):IF D=23 OR D=24 THEN 32560;
CJ 32540 IF D=14 THEN C=C+6;
LJ 32550 GOTO 32530;
GJ 32560 C=C+1:GOSUB 32640:D=PEEK(C):IF D<20 AND D<22 THEN 32560;
EJ 32570 RETURN;
HJ 32580 IF TK>7 THEN RETURN;
OJ 32590 C=C+1:D=PEEK(C):IF D=27 THEN 32620;
CJ 32600 IF D=14 THEN C=C+6;
GJ 32610 GOTO 32590;
CJ 32620 C=C+1:IF C<(X+LL) THEN GOSUB 32640;
HJ 32630 RETURN;
HJ 32640 D=PEEK(C):IF D=20 OR D=22 THEN C=C+1:RETURN;
OJ 32650 IF D<14 THEN PRINT M$; SR,":C=C+1:RETURN;
IJ 32660 C=C+1:FOR J=0 TO 3:POKE Y+J,PEEK(C+J):NEXT J;
GJ 32670 IF M&LN THEN M=B+RN+FR:GOTO 32690;
HJ 32680 M=X:RN=M;
LJ 32690 NM=PEEK(MX)+PEEK(MX+1)+8TB:BOUND 1,MN,10,0;
LJ 32700 IF MN<2 AND MN<M THEN RN=RN+BY:MX=M+PEEK(MX+2):GOTO 32690;
GJ 32710 IF MN<M THEN PRINT M$; NF,":GOTO 32730;
HJ 32720 M=RN:FOR J=0 TO 3:POKE Y+J,PEEK(Y+J):NEXT J;
GJ 32730 C=C+1:RETURN;
UJ 32740 PRINT "POKE 85,10:PRINT ">";(M-FR)/BY;" LINES";
GJ 32750 PRINT "LIST";:CHR$(34);:"D";:B0;CHR$(34);:"I";:FR";:"M-BY;
HJ 32760 FOR K=1 TO 3:PRINT CHR$(120);:NEXT K:POKE 746,0:END

```


Atari Help

Continued from page 65

sionally, updates to documentation are released by Atari, so you may want to write and ask if more information is available for the 1027 (Atari Customer Relations, P.O. Box 61657, Sunnyvale, CA 94088). How the 1027 works? Basically, an electric current spins a band of characters to the proper letter or number which is then "stamped" onto the ink ribbon, leaving an impression on the paper. Compared to a typewriter, the 1027 seems amazingly fast, but you may be surprised to hear that it is actually one of the slowest printers. Dot-matrix printers, while offering lower-quality type, can churn out characters six to eight times faster than letter quality printers. The slower, letter-quality printers have an advantage, of course, in that their print is indistinguishable from that of a typewriter.

Unless your manual specifically tells you to oil the 1027, do not oil it. Most of today's printers are designed to run without user-oiling, and by oiling it you may do more harm than good.

Cartridges are more difficult to "revive" than are ribbons, but it is possible. One common method for extending the life of a cartridge is to take a part of the ribbon, twist it so the back of the ribbon faces the front, (180 degrees), and then completely wind the ribbon to the end. Some cartridge users open up the cartridge, apply a solvent, and then wind everything back up again when dry, but others say there may be undesirable "side-effects" to this technique.

Regardless of your printer, the Control-O sequence is necessary to send special character codes to the printer.

A good article to read on controlling external devices with the Atari computers is "Control Your Environment with the Atari 400/800" by David Alan Hayes (BYTE Magazine, July 1983, p.428). It discusses using the joystick ports for input/output. While written for the Atari 400 and 800, most of what is discussed pertains to the XL and XE computers as well. Remember, however, that the XL and XE have only two joystick ports instead of four.

Q. Do you have any advice on a modem that would be compatible with Atari XE, Franklin, Commodore and T.I.? I would like to be one modem and use individual cables.

Stan Morris
Kula, HI

A. Your best bet is to buy any of the RS232C-compatible

modems and use the appropriate cables/interfaces for each computer. You'll need to buy an Atari 850 interface to use such as a modem with the Atari XE.

Q. Thanks for all the nice articles on ATARI along with the great utility programs. They are proving very helpful in my computing! I have a ton of questions for you: 1) I have some customized business software packages written in BASIC which I would like to use the numeric keypad for entries. Is there a particular technique to inserting your

keypad program as a subroutine? 2) I would like to compile this business software into machine language. Is there a program like MAC65 or some other which could do the job? Or should I use something like the ACTION language to speed up the process?

John Palhof

West Palm Beach, FL

A. Adding the keypad subroutine to a BASIC program is easily done. First, renumber the keypad program (with a renumbering utility or manually) so that the line numbers do not interfere with

the line numbers of your business program. Next, you must change the program into a subroutine. This is done by changing the END on line 50 to a RETURN. LIST "C:" (for cassette) or LIST "D:TEMP" (for diskette) the renumbered keypad program. LOAD in your business software and ENTER "C:" or ENTER "D:TEMP" the keypad program. By ENTERing the LISTed keypad program, it is merged with your business program in memory. Now, to activate the keypad, place a GOSUB to the keypad

subroutine at the beginning of your business program. For example, if you renumbered the keypad program to begin at line 20000, line 5 of your business program could read:

5 GOSUB 20000

After the keypad routine is initialized, control returns to your BASIC program and the numeric keypad responds to your input.

Regarding your question on

Continued on
page 166

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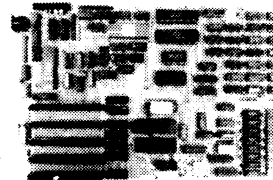
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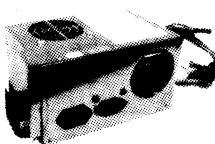
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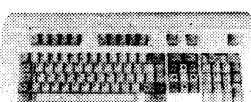


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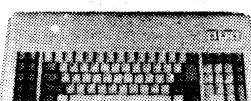
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Applying The Atari

Continued from page 162

the complete name. After a match is found, it is displayed on the screen and you are asked if you want to continue searching or to stop. Press C to find the next recipe in the category you specified. When you've found the recipe you want, press S and the menu will appear.

When finding either a recipe name or a category name, an "END OF RECIPES" message will be displayed when all recipes on the diskette have been examined for a match.

If you want to change a recipe that you have found, press S to stop searching and press B on the menu for the BROWSE/EDIT option. The last recipe that was found will be reprinted on the screen for you to change it as you please.

CALCULATE Feature

This option enables you to automatically multiply or divide the measurements of a particular recipe. Only the recipe that is on the screen is affected by this command -- the original recipe on the diskette will not be changed.

When C is pressed for the "SELECT:" prompt, you are asked, "CURRENT NUMBER OF SERVINGS?" Type the number of servings that the original recipe makes and press RETURN. It is a good idea to label the recipe itself with the number of servings. The best way to do this is by placing the number of servings in parenthesis at the leftmost position on a line, such as: (4) SERVINGS. This will enable the "4" to be changed along with the

measurements when a recipe is multiplied or divided.

Next you are asked, "NUMBER OF SERVINGS DESIRED?" Type the number of servings you would like to make and press RETURN. Recipe Manager will then examine the recipe on the screen, line by line, multiplying or dividing each measurement as appropriate. Remember, in order for a measurement to be re-calculated, it must be in parenthesis and at the left-most position on the screen. An asterisk will be printed on any line that generates an error when the CALCULATE option is used. Such an error might result if a closed-parenthesis is forgotten or if numbers are not in the correct format.

The CALCULATE feature will put mixed numbers in a form such as: 1 + 1/4. Recipe Manager uses 1/8 as the smallest fraction and will round measurements up or down to the nearest 1/8. If you would like the minimum measurement to be 1/4, change line 2000 to:

2000 FOR D = 2 TO 4

It is important to note that only the measurements will be changed -- baking times, for instance, must be lengthened or shortened by you, since these times cannot simply be multiplied or divided along with the measurements of the recipe.

Sample Recipe

Figure 1 shows a sample Recipe Manager screen on which a recipe (thanks to Sandra B.) has been placed. The first line of the mini-screen contains the category, "MAIN DISHES" and the second line contains the recipe name,

RECIPE MANAGER MENU

MAIN DISHES
MEAT LOAF

Ingredients:

(1 + 1/2) cups seasoned stuffing mix

(1/2) cup water

(1) can tomato sauce (8 oz. can)

(2) lbs ground beef

(1) egg

(1) packet onion soup mix

Directions:

Mix stuffing with water until moist. Stir in remaining ingredients. Form into a loaf in shallow baking pan. Bake 60 minutes at 350° F.

(4) servings

ADD BROWSE/EDIT FIND PRINT CALCULATE
SELECT: █

Figure 1

"MEAT LOAF." Note the format of the numbers for the measurements and the "(4) servings" near the bottom of the recipe.

Figure 2 shows how this recipe looks when printed with the PRINT option. The top recipe is the original one, while the bottom one was recalculated, with the CALCULATE option, for eight servings. Note how the categories are placed in the upper, left-hand corner and how the recipe names are automatically centered and underlined. This allows you to cut out the recipes and paste them on recipe cards, if desired.

MAIN DISHES MEAT LOAF

Ingredients:

(1 + 1/2) cups seasoned stuffing mix

(1/2) cup water

(1) can tomato sauce (8 oz. can)

(2) lbs ground beef

(1) egg

(1) packet onion soup mix

Directions:

Mix stuffing with water until moist. Stir in remaining ingredients. Form into a loaf in shallow baking pan. Bake 60 minutes at 350° F.

(4) servings

MAIN DISHES MEAT LOAF

Ingredients:

(3) cups seasoned stuffing mix

(1) cup water

(2) cans tomato sauce (8 oz. can)

(2) lbs ground beef

(2) eggs

(2) packet onion soup mix

Directions:

Mix stuffing with water until moist. Stir in remaining ingredients. Form into a loaf in shallow baking pan. Bake 60 minutes at 350° F.

(8) servings.

Figure 2

Next Month

We'll have programs for the new year, reader mail, a look back to 1985, and more.

Readers' questions, comments and contributions are welcome. Please enclose a self-addressed, stamped envelope for a personal reply.

A diskette of all programs listed in this month's column is available from the author for \$7.00, postpaid. Please specify your disk drive model.

Program Perfect is a utility used to check for typing errors while entering programs from this column. Readers may send \$5.00 for a diskette of this program and documentation.

Address all correspondence to: Jeff Brenner, "Applying The Atari 12/85" c/o Computer Shopper, P.O. Box F, Titusville, FL 32781-9990.

Atari Help

Continued from page 163

compiling your BASIC business programs into machine language, you would want a BASIC compiler, such as Monarch Data System's ABC. A compiler will take a program written in BASIC and convert it into machine language code so that it may run several times faster. MAC/65 is only an

assembler/editor and would require you to completely rewrite your programs into assembly language; a far from simple task, regardless of your programming experience. A language such as Action! would speed things up, but again you would have to rewrite the entire program in the new language.

Q. On the Mailing List program ("Applying The Atari,"

June 1984) how do I change the left margin on my Okidata 92? As you know, the tractor is fixed so you can't shift the position of the paper.

Mitchell J. Macieski
Nutley, NJ

A. The lines listed under "Left-Hand Margin for Mailing List" will allow you to enter a value for the left

added as an enhancement to Mailing List. If you did not enter the enhancements to Mailing List, then do not type this line.

When you choose to print labels, you'll now be asked to enter a left margin. Enter the number of spaces that you want the print head to move over before it begins printing.

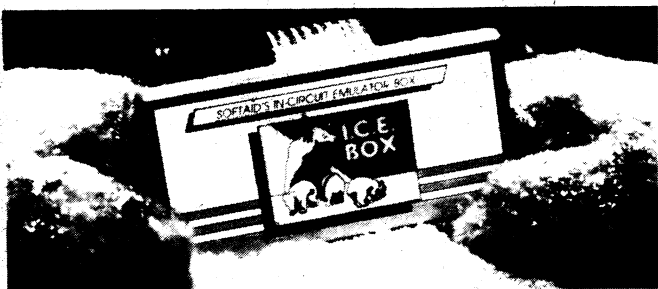
LEFT-HAND MARGIN FOR MAILING LIST

```
1155 PRINT "LEFT MARGIN": INPUT LM
1266 A$=SP$(1,LM)
1285 PRINT #5;SP$(1,5+LM);ID2$;SP$(12);IF Q THEN PRINT #5;SP$(1,HS+5);ID$;
1290 PRINT #5;A$;NAME2$;IF Q THEN PRINT #5;SP$(1,HS);NAME$;NAME$=NUL$
1300 PRINT #5;L$;A$;ADDR2$;IF Q THEN PRINT #5;SP$(1,HS);ADDR$;NAME2$=NUL$
1310 PRINT #5;L$;A$;CS2$;IF Q THEN PRINT #5;SP$(1,HS);CS$;
```

margin. This will work on any printer since it prints spaces to move the margin over. Lines 1155 and 1266 are added, while 1285, 1290, 1300 and 1310 are changed. Line 1285 is one of the new lines recently

Address Atari-related questions to:

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4XFORTH

Continued from page 66

the section on Satellite Disk. This is a scheme in 4XFORTH where a "processor may be run as a serial satellite from a computer which has disks." The information looks like one could develop a CRAY approach to multi-computer operation using this software. It's very intriguing.

A seventy page dictionary is next containing some four hundred words. The description of the words look good. There appears enough flexibility within this dictionary to do about anything one could wish to do in FORTH. Admittedly, it uses the "line A" for its minimum graphics but when the GEM Interface package arrives, the 4XFORTH system should prove an excellent tool for software development. The details of the description of each word was not always obvious, so I started dumping the source code. After 300 screens of information, I pulled the plug and began to study the detailed coding. This enhances the understanding of the explanation in the text. You can pick a word and follow it backwards up to the "primitive" using the LOCATE <word> tool. In studying the screens, I was quite pleased with the programmers' comments in support of the coding.

There are two things that I wish were available. First, a programming card containing the word, format, and brief explanation classed into functioning areas. It takes time sorting through the pages of text. You know it's there but you just cannot find it. One time I turned off my cursor and could not find out how to turn it back on. Now that slows one down. The other thing for help would be some completed, detailed examples from booting, through editing, graphics, installation and running. I know the information is in there and I'll eventually find it even though I'm not the best at absorbing written material.

Even though there are some shortcomings and some breakdown that necessitate rebooting, I like the 4XFORTH system. I'm anxious to receive the GEM Interface package so I can get into some serious program development. I see bugs, lock-ups, etc., in the system that may be either 4XFORTH or the 520ST, but I feel that both Atari and the Dragon Group have enough class that when problems are isolated, we'll be furnished the fixes. Again, I like the system, but will hold my final judgement until I get a chance to work with the GEM Interface software.

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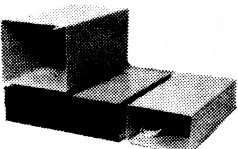
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